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Mr. Lester Snow Mr. Dick Daniel CALFED Bay-Delta Program 1416 9th Street, Suite 1155 Sacramento, CA 95814

Dear Mr. Snow and Mr. Daniel:

As you know, the environmental community has repeatedly recommended that explicit measures of ecosystem performance be included in the CALFED program and specifically tied to any proposed package of "assurances" for the long-term solution to Bay-Delta water issues. It has been our understanding that the CALFED program generally agrees with this view. The April 18, 1997 executive summary of the Ecosystem Restoration Program Plan, for example, anticipates the development of both *implementation objectives* ("specific and detailed descriptions ... not intended to change" of what the program intends to achieve) and *indicators* (things that will be measured to "individually and cumulatively provide an assessment of ecological health" and "measure progress toward the goal". Similarly, all of the alternatives proposed in the materials distributed for the May 15, 1997 workshop on assurances include provisions for meeting "certain [as yet unspecified] minimum environmental goals and objectives." While we applaud the inclusion of such provisions in CALFED'S developing program, we remain troubled by the lack of specificity surrounding these goals, objectives, and indicators.

Specifically, EDF is concerned that the lack of resource commitment by CALFED to indicator development will cripple the program's ability to develop a group of indicators that adequately measure the integrity of the system and the success of the restoration program. We appreciate the efforts of EPA's staff to attempt the heroic feat of indicator development in-house. Their effort is likely to lead to a few solid, scientifically defensible indicators that are useful for selected components of the system. They will not, however, provide a methodical framework for long-term management.

³ see, e.g., p.9

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I see p. 7

² see p. 4

Despite our misgivings about the lack of progress to date, however, we continue to feel that a solid set of ecological indicators could be developed by CALFED on a schedule consistent with CALFED's decision-making timeframe. EDF's specific recommendations for the procedure that CALFED could use to generate a timely and credible set of indicators was provided to CALFED staff and to EPA staff on February 14, 1997. A copy is enclosed for your reference (Attachment 1). In brief, we recommend a stepwise process that maximizes use of existing information. It begins with the framework developed at the indicators workshops last year as a template for indicator development, but simplifies the procedure by providing a list of generic properties for which indicators should be developed at different scales (see Table 1 of Attachment 1). A group of experts "test-drove" the approach outlined in Attachment 1 at a two-day meeting this spring (held in conjunction with the EPA indicator-development process March 7 & 10, 1997), producing some specific recommendations for indicators. Participants in the EPA meetings included Bruce Herbold, Susan Hatfield, Carolyn Yale, Gary Bobker, Serge Birk, Pete Rhoads, Bellory Fong, Pat Coulston, Steve Johnson, and EDF staff. We believe that this approach worked well, and feel that the pieces are now in place to allow CALFED to proceed along the same lines.

Selecting appropriate indicators is a non-trivial process. In addition to the fact that the Bay/Delta/River system is an enormously complex ecological unit, indicator selection is complicated by the need to identify measurements that will show responses in a timely manner (i.e., both rapid-response indicators and indicators of longer-term shifts in ecological processes) in the presence of natural variability. Selecting appropriate indicators is also significant for the success of CALFED's efforts, since they will provide one of the cornerstones of any agreement or assurances package. It is for these reasons that EDF recommends that CALFED invest additional resources in indicator development without further delay.

Please let us know your reactions to this recommendation. As you know, time is short before CALFED proposes to publish a document proposing a draft preferred alternative program.

Thank you,

Terry F. Young Ph.D.

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cc: Ms. Felicia Marcus, Regional Administrator Environmental Protection Agency